

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

In the Matter of

)	
)	RM-8658
Section 68.4 of the Commission's Rules)	
Hearing Aid Compatible Telephones)	

Request to Reopen the Petition for Rule Making

Introduction

I submitted comments in favor of the Wireless Action Coalition's (WAC) request that the Federal Communications Commission (FCC) reopen the Petition for Rule Making in the Matter of Section 68.4 (a) of the FCC's Rules, Hearing Aid Compatible Telephones.

These comments are in reply to CTIA's and Verizon's comments.

I am an individual with severe to profound hearing loss.

Ronald H. Vickery
404 Benton Dr.
Rome, GA 30165
706 802-1761
ron.vickery@usa.net

The CTIA stated:

"Before the Commission revokes or limits the statutory exemption from wireless telephones, the HAC Act requires the Commission determine that:

- i. Such revocation is in the public interest
- ii. Continuation of the exemption without such revocation would have an adverse effect on hearing impaired individuals

iii. Compliance with the Commission's part 68 HAC requirement is technologically feasible for wireless phones and,

iv. Compliance with the Commission's HAC requirements would not increase costs to such an extent that the wireless telephone could not be successfully marketed."

My response to the above points:

i. The public interest is served by increasing accessibility for hearing impaired people and not decreasing accessibility or services to other people.

ii. The exemption is causing adverse effects on hearing impaired people because we cannot participate in the wireless revolution like other people and we could have otherwise. Some wireless phones have accessories that make them useable by some hearing impaired people. However, accessories are not desirable and some are of marginal use.

iii. It is feasible to make digital wireless phones HAC. In the strictest sense, it just means using a dynamic speaker in the handset or adding a telecoil if a piezoelectric type is used. Audex demonstrated this by modifying an analog cellphone and marketing it under their name. However, the problem with digital cell phones is that they usually create interference that is so overpowering that it is immaterial if the wireless phone is HAC. Achieving HAC is the easy part to do, but reducing interference is much more difficult. However, there are a few brands and models that are widely reported to have good HAC with little or no interference. One is the Samsung SCH-3500. I have tested a Nextel i1000 and it has very good HAC. However, my test was very short and not in a normal everyday environment. Both these phones use a "flipphone" style which locates the electronics of the phone further from the hearing aid.

I do not know if either of these phones have any internal shielding, but shielding can be applied to any physical style with an expected reduction in interference. I saw a demonstration of effective shielding at the 2001 Consumer Electronics Show at Las Vegas. This shielding demo was designed to show the danger or amount of RF energy a cell phone user absorbs into her or his head. Then the cell phone is placed into a protective holder that contains shielding and the demo showed a dramatic reduction of RF energy going into a person's head. I tested it to see if it would reduce interference to my hearing aids and it did - it completely eliminated the interference. However, a more exhaustive and controlled test should be done.

Even if wireless phone manufacturers do nothing to improve shielding, this product - made by the company "Wild NRG" - may be available in stores soon, so it is imperative that wireless phones have the HAC type of speaker in the handset.

iv. Given that wireless phones are very feature rich and sophisticated, adding the changes discussed above are elementary and low cost by comparison, so item (iv) above is satisfied.

CTIA also correctly reported that shielding in the hearing aid is not very effective and circuitry in the hearing aids that has inherent noise immunity is more promising. However, hearing aids are very expensive and many hearing aid users have invested great sums of money to be able to hear. Even if a solution to the interference problem was implemented in a hearing aid, which I doubt is possible since it must still be able to receive from the telecoil, it is too much to ask a hearing aids user to invest again in a hearing aid just to be able to use a digital cell phone. Since a telecoil is non-selective it cannot differentiate between the electromagnetic speech signals and electromagnetic interference signals which are in the same audio band. It may be possible to design a hearing aid that has noise immunity when using its built-in microphone, but when telecoil mode is selected, any stray electromagnetic radiation present will be brought into the hearing aid. This makes it imperative that the wireless phone eliminates or reduces stray electromagnetic radiation in the audio band.

Verizon said:

"As discussed above, the current state of technology does not provide any solutions that will enable digital wireless phones to be compatible with the vast majority of hearing aids. Indeed, one of the two factors that largely determines hearing aid-compatibility -- the design of the hearing aid -- is beyond the control of the wireless industry and manufacturers of wireless devices."

As I have reported above, there are some phones available that do a good job of HAC and cause little interference. Secondly advocates for telecoil use made good progress in alerting the FCC and the telephone industry of our needs. The design of hearing aids, particularly the telecoil, had been common knowledge years before digital wireless phones came on the scene. A telecoil is a simple device and as such, there is not much room for improvement. Hearing aids vary in design and sophistication, but they all share the common need to use a telecoil as one source of input. The wireless industry ignored our needs from the very start, even knowing

that telecoil use was and is a critical requirement.

“External devices are readily available that make otherwise non-compatible wireless devices compatible with hearing aids”.

External devices are a lot of trouble. One attractive benefit of a small wireless phone is that people can answer the call even while walking, lying in bed, driving a car, and in many more environments. Hearing impaired people already have a vast array of assistive devices to contend with and we don't need another item. If the wireless industry had provided standard connection points for existing devices, it would not have been as much trouble. It is not convenient or sometimes even possible to attach a device while a phone is ringing. It is also not convenient to leave an accessory in place, because we have other accessories that need to be in place for other communication needs.

My conclusions:

HAC should be required in all wireless phones, in the handset itself, without the need for any accessory. Some phones have demonstrated that this is possible.

Existing wireless phones that generate excessive electromagnetic radiation may be usable with an external shielding add-on. New models can have shielding built-in.

Every wireless service provider must be required to offer voice service in a non-interfering mode, such as analog. Wireless phone users would use digital mode for non voice and switch to another mode for voice.

Thank you for giving me the opportunity to comment on this vital issue.

Sincerely,

Ron Vickery